STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
REPORT OF EXAMINATION
Change of: Additional Points of Withdrawal
WRTS File #CG2-01024

PRIORITY DATE	APPLICATION NO.	PERMIT NO.	CERTIFICATE NO.
June 16, 1964	7208	G2-01024P	CG2-01024

NAME
City of Buckley

ADDRESS/STREET	CITY/STATE	ZIP CODE
P.O. Box 1960	Buckley, WA	98321

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Two Wells - Well 1 (Naches Well) and Well TW-1 (Trail Well)

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND (cfs)	MAXIMUM GALLONS PER MINUTE (gpm)	MAXIMUM ACRE FEET PER YEAR (ac-ft/yr)
	450	180

QUANTITY, TYPE OF USE, PERIOD OF USE

180 acre-feet per year	Municipal Supply	Year-round as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION–WITHDRAWAL
Well 1 – 1450 feet north and 10 feet east of the southwest corner of section 3;
Trail Well - 900 feet South and 550 feet West of the NE corner of Section 9 T19 R6E

SOURCE	PARCEL	LATITUDE	LONGITUDE	QTR/QTR	SECTION	TOWNSHIP	RANGE
Well 1		47.160498	-122.036487	NW/SW	3	19	6E
New well to be constructed at the Trail Well site		47.153976	-122.039167	NE/NE	9	19	6E

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
[Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal]

Area served by the City of Buckley. The place of use of this water right is the service area described in the currently approved Water System Plan, as approved by the Washington State Department of Health. RCW 90.03.386 may have the effect of revising the place of use of this water right if the criteria in section RCW 90.03.386(2) are met.

DESCRIPTION OF PROPOSED WORKS

Well 1 is completed at an approximate depth of 130 feet; and a new well is proposed for the Trail Well site.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
Started	September 1, 2010	Not Applicable

PROVISIONS

Metering and Reporting Diversions

1. An approved measuring device shall be installed and maintained for each of the diversions authorized by this water right, in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

2. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/. If you do not have Internet access, contact the Southwest Region Office for forms to submit your data.

3. Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation, and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements."

4. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions and may inspect, at reasonable times, any measuring device used to meet the above conditions.

Health Approval Required

Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water at Northwest Drinking Water Operations, 20435 72nd Avenue S, Suite 200, K17-12, Kent, WA 98032-2358, (253) 396-6750, prior to beginning (or modifying) your project.

FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find that all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I find that the change of water right, as recommended, will not be detrimental to existing rights.

Therefore, I ORDER approval of the recommended change, ***G2-01024C,*** subject to existing rights and the provisions listed above.

You have a right to appeal this ORDER. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
P.O. Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. And send a copy of your appeal to:

Thomas Loranger
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia WA 98504-7775

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov . To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser .

Signed at Olympia, Washington, this 3rd day of June 2010.

Thomas Loranger

Thomas Loranger, Section Manager
Water Resources Program
Southwest Region Office

BACKGROUND

Description and Purpose of Proposed Change

On February 27, 2008 Dave Schmidt, City Administrator for the City of Buckley, filed an Application for Change to add a point of withdrawal to Ground Water Certificate G2-01024C. The place of use and point of withdrawal are located in Water Resource Inventory Area 10, the Puyallup-White River watershed, approximately 6 miles southeast of Lake Tapps, in Pierce County, Washington.

The intent of this filing is to add an additional point of withdrawal on the certificate that currently authorizes withdrawals from the City's Well 1 (a.k.a., Naches well). Water will continue to be used for municipal supply, and the two wells will be operated so as not to exceed the current water right authorization.

Ground water certificate G2-01024C currently authorizes withdrawals from the City's Well 1 (Naches Well) of 450 gpm and 180 ac-ft/yr. Well 1 is located in the NW ¼ of the SW ¼ of Section 3, T. 19N, R6E. Over time, production has declined in the well, and although it was originally rated for 450 gallons per minute, the well now yields only 260 gpm. Since Well 1 is located on a small city lot, the site is not conducive to the construction of a second well. The City has been exploring other sites for water development and wishes to add an additional well approximately ½ mile to the southwest.

The new point of withdrawal will be located in the NE ¼ of the NE ¼ of Section 9, T19N, R6E. A 6-inch test well, referred to as TW-1 (or the Trail Well), was constructed at this site in 2005. This test well was drilled to a depth of 197 feet, and completed at 158 feet. The well taps an unconfined aquifer, with a static water level of 55 feet below ground surface. The City intends to construct a new 10-inch well on the site, converting the 6-inch test well to a dedicated monitoring point.

Attributes of the Certificate and Proposed Change

Table 1. Summary of Proposed Changes to Water Right No. G2-01024.

Attributes	*Existing*	*Proposed*
Name	Town of Buckley	City of Buckley
Priority Date or Date of Application for Change	June 16, 1964	February 27, 2008
Instantaneous Quantity	450	450
Annual Quantity	180	180
Source	Well 1	Well 1 and new well to be constructed at the Trail Well site
Point of Diversion/Withdrawal	Well 1 – NW ¼ SW ¼ Section 3, T. 19N, R6E	Well 1 – Same location New Well - NE ¼ of the NE ¼ of Section 9, T19N, R6E
Purpose of Use	Municipal Supply	Municipal Supply
Period of Use	Year-Round	Year-Round
Place of Use	Area served by Town of Buckley	Area served by City of Buckley

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in point of withdrawal

- **Public Notice**

A public notice of the proposed change was published in the Dispatch, a weekly paper published in Eatonville, WA on July 23rd and 30th, 2008, in accordance with state statutes, and no protests were received as a result of this notice.

- **State Environmental Policy Act (SEPA)**

The governmental action relating to the subject application is exempt from the "detailed statement" preparation requirements of SEPA (WAC 197-11-800(4)). The application neither involves appropriations of one (1) cubic feet per second or more of surface water for irrigation purposes or appropriations of 2,250 gallons per minute or more of ground water for any purpose.

- **Water Resources Statutes and Case Law**

Chapter 90.44 RCW authorizes the appropriation of public water for beneficial use and describes the process for obtaining water rights including the process to amend or change existing rights. Laws specifically governing the water right permitting process are RCW 90.03.250 through 90.03.340 and RCW 90.44.060. Changes or amendments to these rights are covered under RCW 90.03.380 and RCW 90.44.100.

INVESTIGATION

The investigation of this change application is based on a site exam, discussions with David Schmidt from the City of Buckley, review of the information submitted by the applicant, and relevant Department of Ecology records, including water rights, well construction logs and other hydrogeologic information.

History of Water Use

The City of Buckley was founded in 1889, with its first gravity flow water system constructed in 1907. The City originally used a series of springs located near the present day treatment plant, but by the 1920's had developed the South Prairie Creek supply that meets the majority of the City's current water needs.

Although no well log is available for Well 1, its associated water right has a priority date of 1964; therefore we assume that the well was constructed sometime during the early 1960's and that water from Well 1 was beneficially used in that time frame. The eastern well field includes Wells 2, 3, and 4, which were constructed in 1989 and 1990; only Wells 2 and 4 are production wells. The Trail Well (TW-1) was constructed in 2005.

Proposed Use

Water will remain in use for municipal purposes.

Other Rights Appurtenant to the Place of Use

The City of Buckley currently supplies water from five sources, including a surface-water diversion from South Prairie Creek and 4 wells. Well 1 is the City's primary groundwater source. Wells 2 and 4 constitute the East Well Field; Well 4 is approximately 110 feet east of Well 2. Additionally, the City uses Well 5, which is located at the Rainier School.

Table 1. City of Buckley Water System

Source	Type	Location of Point of Withdrawal	Casing Size	Yield (gpm)	Construction Date
South Prairie Creek	Surface Water	SE 1/4 NE 1/4, Sec. 31, T19N, R7E	N/A	750	
Well 1 (Naches Well)	Production Well	NW 1/4 SW 1/4, Sec. 3, T19N, R6E	10	260	Pre-1968
Well 2	Production Well	NW 1/4 SW 1/4, Sec. 1, T19N, R6E	8	120	11/10/1989
Well 4	Production Well	NW 1/4 SW 1/4, Sec. 1, T19N, R6E	12	400	4/20/1990
Well 5 (Rainier School)	Production Well	NE 1/4 SE 1/4, Sec. 2, T19N, R6E		270	Pre-1940
TW-1 (Trail Well)	Test Well	NE 1/4 NE 1/4, Sec. 9, T19N, R6E	6	250	10/21/2005

Water Right Settlement

The City of Buckley's water rights have been the subject of intense negotiations with the Department of Ecology. In 2005, as part of a stipulated settlement agreement between the State and the City, Ecology agreed to amend the City's rights effectively increasing the annual quantity of water the City was entitled to from a previous cap of 706 ac-ft/yr to 1354 ac-ft/yr.

Without the additional water rights afforded to the City, Buckley would reach its water rights threshold within the next 12 years. According to the 2001 Pierce County Coordinated Water System Plan, Buckley's "High Case Projected Water Demand" amounts to 1.39 million gallons per day (mgd) in 2020 (1,557 ac-ft/yr). Base Case projections place Buckley's 2020 demand at 1.18 mgd, (1,120 ac-ft/yr). These figures were refined by the City's 2005 water system plan that estimates an average day demand (adjusted for lost and unaccounted for water) of 1.52 mgd (1,697 ac-ft/yr) in 2020, increasing to 1.72 mgd (1,931 ac-ft/yr) in 2023.

Under this settlement agreement, the City was required to retrofit their existing South Prairie Creek diversion works, so that, to the maximum extent possible, only water that will be treated and used in the City's municipal system (or used for irrigation by DSHS at the Rainier school) is diverted. In May of 2008, the City completed the installation of the new inlet control valve, which consists of a motor actuated butterfly valve within a vault immediately upstream of the Water Treatment Plant. The control valve will maintain a constant water level in the sand filter. The valve controls can be set to reduce the overflow of unused raw water at the plant. However, due to concerns regarding the pressure in the raw water transmission main, the valve is not configured to completely eliminate the overflow of raw water. With the measurement of the inlet flow rate via a new ultrasonic level sensor at the v-notch weir, where the raw water exits the inlet bay, the overflow rate can be calculated.

The City intends, in conjunction with the Rainier School staff, to monitor the overflow volume and flow rates and adjust the inlet control valve to reduce overflows, while protecting the integrity of the transmission main. The City reports its water use to the Department of Ecology on an annual basis, as required.

Table 2. City of Buckley's Water Rights After Stipulated Settlement Provisions Enacted.

WR. #	Source	GPM	Ac-ft (Additive)	Status
369-A	S. Prairie Cr.	898 (2 cfs)	896	Certificate
G2-01024	Well #1	450	180	Certificate
G2-28335	Well #2	150	242	Permit
G2-27595	Well #4	280	36	Permit
Total		1,778	1,356	

The settlement directs Ecology, at the City's election, to either issue superseding documents for Groundwater Certificate G2-01024C, and for Permits G2-28335 and G2-27595, totaling 458 acre-feet annual primary quantities; or if the City wishes to transfer these rights to an alternate site via an *Application for Change* process, to issue superseding documentation authorizing withdrawal of 458 ac-ft/yr of primary quantities at source(s) selected by the City.

To be approved, the *Applications for Change* must:

- be consistent with RCW's 90.03.380 and 90.44.100,
- not constitute an impairment to other water users or instream flows,
- withdraw from the same body of water, and
- not exceed the quantities authorized at the existing wells.

Future water demand

Based on the City's 2005 Water System Plan, average daily demand in 2023 is projected to be 1.72 mgd or 1,931 ac-ft/yr. That same plan indicates maximum day demand will be 2,395 gpm.

To ensure adequate water supplies the City of Buckley needs to secure rights to additional water in the amount of 575 ac-ft/yr, and increase production capacity by 617 gpm.

Hydrogeologic Evaluation

The following is derived from a review conducted by Ecology, Water Resources Program hydrogeologist Tom Culhane, and summarized in a hydrogeologic memo dated March 2, 2009. The following reports were useful during that investigation:

- Northwest Land & Water, July 2007, "Construction Report, Test Well TW-1, City of Buckley, Pierce County, Washington".
- Pacific Groundwater Group, October 2008 "City of Buckley Water Supply, Hydrogeologic Evaluation".

The new well site is located on the south side of the White River in the Enumclaw uplands. The only significant surface-water body in the area is the White River, located approximately 1/4 mile from the original well site. South Prairie Creek, the primary water supply for Buckley, is located a few miles to the southeast.

Hydrogeologic Setting

Topography in the Buckley area is relatively flat as a result of the Osceola Mudflow (volcanic lahar from Mt. Rainier) that inundated the area about 5,600 years ago. The mudflow plain has been cut by the White River, which

courses through the Buckley area from east to west. Topography in the southeastern half of the area consists of rolling hillsides underlain by dense glacial till or bedrock.

Land use in the area is largely residential, except for downtown Buckley, which is mixed commercial and residential.

The most significant hydrogeologic feature in the Buckley area is the Osceola Mudflow, a volcanic lahar, which covers most of the ground surface. The mudflow was deposited during one catastrophic event that covered the pre-mudflow topography, leaving a flat plain of poorly permeable soil. Aquifer units do not generally occur within this deposit. Most importantly for groundwater conditions, the mudflow limits direct recharge from precipitation to shallow aquifers beneath Buckley. Deeper aquifers in the area have larger recharge areas and so are less affected by the reduced recharge.

Pre-Osceola mudflow geologic units include ancestral White River alluvium, sediments deposited during Vashon Stade of the Fraser Glaciation, undifferentiated deposits that likely contain older mudflows, and pre-Vashon landslide deposits. The complexity of the interlayering increases from west to east. In the western portion of the study area, pre-Osceola Mudflow units appear to be more consistent than in the eastern portion, near the bedrock uplands south and east of Buckley.

The Buckley area receives approximately 33 in/yr of precipitation. Infiltration and recharge are limited by relatively low permeability surface deposits, including exposed volcanic rock, till capped hills, and the Osceola mudflow. These conditions result in a significant amount of runoff and relatively low local recharge.

Well Information

A drillers log is not available for Buckley's Well 1, nor is it clear when the well was constructed. The Department of Health's WFI indicates the well is 129 feet deep. As the land surface elevation at the well head is about 715 feet above mean sea level (AMSL) that places the elevation of the bottom of the well at about 586 feet AMSL. This information differs from that provided when the water right application was filed in 1964. That information designated the source as 8-inches in diameter by 175 feet deep, which is consistent with Ecology's Report of Examination and Permit.

The new point of withdrawal will be located in the NE ¼ of the NE ¼ of Section 9, T19N, R6E. A 6-inch test well, referred to as TW-1 (or the Trail Well) was constructed at this site in 2005. This test well was drilled to a depth of 197 feet, completed about 158 feet below ground surface (bgs), and screened 135 to 155 feet bgs. Land-surface elevation at the site is about 720 feet above mean sea level (AMSL), so the well is completed about 585 to 565 feet AMSL. The Trail Well (TW-1) is too small to support the infrastructure needed to develop a 450 gpm source, thus the City intends to construct a 10-inch well at the site which is suitable for municipal production. The City intends to convert the 6-inch test well to a dedicated monitoring point.

Drilling of TW-1 (the Trail Well) was conducted under the design and observation of Northwest Land & Water (2007). According to their report and the associated well log, Osceola mudflow deposits were encountered from depths of 2 feet to 40 feet. Water was first encountered at a depth of 35 feet and persisted to a depth of 162 feet, except for a thin layer of clayey, silty, sandy gravel from about 55 to 62.5 feet bgs. Below a depth of 162 feet poorly permeable silty deposits predominate. The aquifer tapped by both Well 1 and TW-1 (the Trail Well) is presumed to be associated with Qva deposits.

When the new well is constructed at the Trail Well site the intent is to complete this well at a similar depths to that of the Trail Well. Therefore evaluation of the Trail Well as a surrogate for the new well is justified.

Aquifer TestingTW-1 (the Trail Well) taps an unconfined aquifer, with a static water level of 55 feet bgs. The Northwest Land & Water report indicates the results of a March 21, 2006 TW-1 pumping test. The report indicates a well specific capacity of 9.3 gpm/foot of drawdown after 24.6 hours of pumping at 264 gpm. During this test the maximum drawdown was about 28 feet (scaled off Figure 4 in the report, since the actual value is not provided).

Distance drawdown calculations were performed by Ecology hydrogeologist Tom Culhane to evaluate how the proposed pumping may affect the aquifer. For computation purposes the aquifer's transmissivity was assumed to be 18,400 gpd/ft (a reasonable average value based on the Northwest Land & Water report) and the specific yield was assumed to be 0.15. To evaluate the potential long-term average effects of pumping, the 180 acre-feet per year annual quantity was estimated to be equivalent to a long-term average instantaneous pumping rate of 110 gpm. Assuming this rate and a pumping duration of 365 days, approximately 1.4 feet of drawdown was predicted to occur at a distance of one quarter mile (1,320 feet). To evaluate a worst-case pumping scenario the authorized annual quantity was evaluated with respect to the maximum instantaneous rate of 450 gpm to come up with a worst-case scenario of 90 days of pumping at 450 gpm. Assuming those conditions, it was estimated there might be 2.6 feet of drawdown at a distance of 1,320 feet.

Ground water sampled at the Trail Well site contained total manganese concentrations in excess of the maximum contaminant limits (MCL). Total concentrations were measured at 0.5 ppm after 125 minutes of pumping. Manganese is a secondary contaminant, meaning that it is not a health related concern; rather, it contributes to

esthetic issues because it stains plumping fixtures. The standard for manganese is 0.05, so treatment will be required.

Same Body of Public Groundwater

Ecology derives its authority to transfer diversion and withdrawal points between surface and groundwater bodies from RCW 90.03.380, 90.44.020-030, 90.44.100 and 90.54.020(9). In order to approve applications, a determination must be made that all subject well(s) tap that same source of water. Surface waters and/or groundwater in hydraulic connection are considered to be within the same source if they meet the following four conditions:

1. They share a common recharge area.
2. They are part of a common flow regime.
3. They are separable from other water sources by effective barriers to hydraulic flow.
4. They are an independent water body for the purpose of water right administration.

Both Well 1 and the Trail Well (TW-1) are located in relative proximity to one another (less than one mile apart), are completed at roughly the same depth, and tap the same Vashon-age glacial outwash aquifer. Based on this all four of the above conditions apply and both wells tap the same body of groundwater. As the new well at the Trail Well site will be completed at a similar depth to the Trail Well, the new well should also tap the same body of groundwater.

Potential Impairment

The new well site is located adjacent to a rails-to-trails recreational pathway. There are no homes in the immediate area and no other ground water rights that have been issued within a half-mile radius of the Trail Well site.

Ecology's Water Rights Application Tracking (WRATS) database was queried to assess existing water rights (certificates and permits) within an approximate one mile radius around well TW-1.

Table 3. Water Rights Within One Mile of Well TW-1.

File #	Person	Doc	Date	Purpose	Qi	Qa	Acres	TRS	QQ/Q	Source
G2-01024CWRIS	Buckley, City of	Cert	06/16/1964	MU	450 gpm	180		19N 06E 03	NW/SW	WELL
S2-00848CWRIS	TAIT, DOUGLAS A	Cert	06/04/1968	ST,IR	0.02 cfs	2	1	19N 06E 09	SW/SW	UNN SPRING
10672	THIEMAN, P & W	Cert	05/23/1967	DS	0.01cfs	1		19N 06E 09	SW/SW	UNN SPRING
7901	EATHERTON, H	Cert	06/05/1959	IR	0.2 cfs	60	30	19N 06E 09	SW/SW	UNN SPRING
8399	MELLICK, H M / H	Cert	05/16/1960	ST,DS	0.02 cfs			19N 06E 10	SE/NE	UNN SPRING
9563	HANN, H J	Cert	09/22/1952	IR	0.14 cfs		14	19N 06E 10	NE/NE	SPIKETON DIT *
G2-24487CWRIS	PFAHL, JOHN A	Cert	04/01/1977	DS	15 gpm	1		19N 06E 10	NE/SE	WELL
G2-28284	PETERS, JAMES	Cert	08/19/1991	DS	12 gpm	0.5		19N 06E 10	NE	WELL

The nearest wells that have water rights (Pfahl and Peters) are located nearly a mile to the east of the new well site, and both were issued for single domestic supply. The Pfahl well is 160 feet deep, and the Peters well is 67 feet deep. Given the distance drawdown calculations above, drawdown nearly one mile away will be very minimal and interference should not be a problem.

Nearby surface-water rights (Table 3) authorize small withdrawals from springs that flow into Spiketon Ditch, a man-made drainage ditch that is tributary to South Prairie Creek. These diversions appear to be located at least one mile from the proposed well, so once again interference with these springs should not be a problem.

In addition to the formal water rights, Table 4 displays the distribution of water right claims within Sections 3, 4, 9, and 10, as determined from Ecology's database. A 4- square-mile area was evaluated because the proposed well is located near four section corners. Section 3 is almost entirely occupied by the City of Buckley and no groundwater claims occur within it. Most of the claims listed for the remaining three sections were filed for exempt uses and represent private well owners. Due to the difficulty in evaluating claims with little information, Ecology's well log data base was queried to evaluate the general distribution of nearby wells. According to the data base no other water supply wells exist within art least one quarter mile of TW-1 (the Trail Well). Beyond this it is difficult to evaluate the well log information since wells logs are only recorded to a section-quarter-quarter accuracy. The data base lists 13 neighboring wells that could be located anywhere from 1,280 to 2,640 feet from the proposed new well.

The distance drawdown calculations above suggest a potential drawdown range of 1.4 to 2.6 feet at a distance of 1,320 feet. Given this and the fact that no wells appear to exist within at least 1,320 feet of the proposed site, it is unlikely well interference will be a problem. In addition, a critical issue involves whether or not any neighboring wells fully penetrate the aquifer(s). WAC 173-150-060 requires an impairment test be applied to "qualifying withdrawal facilities". Qualifying groundwater withdrawal facilities are defined as those wells that are adequately constructed. An adequately constructed well is one that fully penetrates the saturated thickness of an aquifer and can accommodate reasonable variation in seasonal pumping water levels (WAC 173-150). A review of well logs for the area suggests that some nearby wells likely do not fully penetrate the subject aquifer. To the extent that this is true, if any of those neighboring wells are significantly interfered with, legal impairment would not occur.

Table 4. Water-Right Claims Near Well TW-1.

File #	Person	Doc	Purpose	TRS	Source
G2-114593CL	SOLTIS, ANDREW J	Claim S	ST IR	19.0N 06.0E 04	
G2-011511CL	MORRIS, MILTON R.	Claim L	DG	19.0N 06.0E 04	
S2-302265CL	PAYNE, GARY	Claim L	ST IR	19.0N 06.0E 04	ON SITE DITCH
G2-162640CL	TWITCHELL, MARY A	Claim S	DG	19.0N 06.0E 09	
G2-082424CL	LEONARD, ROBERT H.	Claim S	ST DG	19.0N 06.0E 09	
G2-063576CL	RANDOLPH, HAROLD	Claim L	DG	19.0N 06.0E 09	WELL
G2-052902CL	EATHERTON, HAROLD	Claim S	ST DG	19.0N 06.0E 09	
S2-047559CL	TAIT, DOUGLAS A.	Claim S	ST DG	19.0N 06.0E 09	UNN SPRINGS
G2-039944CL	WAYGANDT, BEWLAH	Claim S	ST DG	19.0N 06.0E 09	WELL
G2-031360CL	THEBERT, FREDERICK	Claim L	ST DG	19.0N 06.0E 09	WELL
G2-026161CL	CATCHPOLE, ROSCOE	Claim L	DG	19.0N 06.0E 09	
G2-025998CL	STEINMETZ, DONALD	Claim L	ST DG	19.0N 06.0E 09	
G2-153757CL	KOHER, DENNIS F	Claim L	DG	19.0N 06.0E 10	WELL
G2-146815CL	JOHNSON, EDWARD	Claim L	DG	19.0N 06.0E 10	WELL
G2-111053CL	ANDERSON, PETE E	Claim L	ST DG	19.0N 06.0E 10	WELL
G2-100390CL	SHCULER, PATRICK	Claim L	ST DG	19.0N 06.0E 10	WELL
G2-100391CL	SHCULER, PATRICK	Claim L	ST DG	19.0N 06.0E 10	WELL
G2-098692CL	ECCLES, JOHN M	Claim L	IR,DG	19.0N 06.0E 10	WELL
G2-067833CL	HANVOLD, GARY T.	Claim L	DG	19.0N 06.0E 10	WELL
G2-043565CL	DONATI, AUGUST	Claim L	DG	19.0N 06.0E 10	WELL
G2-043566CL	DONATI, AUGUST	Claim L	DG	19.0N 06.0E 10	WELL

Under the provisions of Chapter 173-510 Washington Administrative Code (WAC), *Instream Resources Protection Program - Puyallup River Basin, Water Resources Inventory Area 10,* minimum flows were established for the Puyallup River and for the White River, which is closed to further consumptive withdrawals. This restriction applies to groundwater withdrawals that affect the surface water system, as well as surface water diversions that reduce groundwater recharge that would ultimately reach the White River. Any water rights issued at this time are subject to regulation to maintain Puyallup River minimum flows, and thus the proposed diversion cannot be approved if it would lead to decreased flows in the White River or other closed tributaries of the Puyallup River.

The requested change would not result in any increased pumping from that amount already authorized by G2-01024 and instead would simply allow Buckley flexibility to pump from either Well 1 or the new well. Furthermore, if anything the TW-1 site is located further from the closed White River as well as the intake flume and Wickersham settling basin associated with the Lake Tapps hydroelectric project. As such, it is very unlikely that the proposed change would impair any surface water rights in the area or protections for the Puyallup and White Rivers under Chapter 173-510 WAC.

CONCLUSIONS

Validity and Extent of Water Right The Department of Ecology's policy on tentative determinations of water rights (*Water Resources Program Policy for Conducting Tentative Determinations of Water Rights, Policy POL 1120*) provides that a simplified tentative determination may be conducted when evaluating municipal water rights.

Ground water certificate G2-01024 is held by the City of Buckley for municipal water supply purposes. Well 1 is the City's main production well with fully perfected annual quantities, and a previously perfected instantaneous withdrawal rate.

Relinquishment/Abandonment There is no evidence of statutory relinquishment pursuant to RCW 90.14, nor is there evidence of the intent of the current or past owners to abandon the water rights addressed by this transfer.

Hydrogeologic Analysis Evaluation of the hydrogeological information available for this area indicates the current and proposed wells are completed within the same source of public ground water.

Impairment of Other Water Rights. Use of the new well to be drilled at the Trail Well site in concert with Well 1 will not impair neighboring water users, or adversely affect instream flows established for the basin.

Public Welfare. In the evaluation of these applications for change, no determent to the public welfare has been identified.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to add a second point of withdrawal be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

- 450 gpm
- 180 ac-ft/yr
- Municipal

Point of Withdrawal

Well 1 - NW¼, SW¼, Section 3, Township 19 North, Range 6 E.W.M.
New well - NE¼, NE¼, Section 9, Township 19 North, Range 6 E.W.M.

Place of Use

As described on Page 1 of this Report of Examination.

Report by: Michael J. Gallagher 5/20/10

Michael J. Gallagher, LHG — Date
Water Resources Program

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